

EXHIBIT 5

***REDACTED VERSION
OF DOCUMENT
SOUGHT TO BE SEALED***

EXHIBIT 5

HIGHLY CONFIDENTIAL – ATTORNEYS’ EYES ONLY

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA, SAN FRANCISCO DIVISION

WAYMO LLC,

Plaintiff,

vs.

UBER TECHNOLOGIES, INC.;
OTTOMOTTO LLC; OTTO TRUCKING
LLC,

Defendants.

CASE NO. 3:17-cv-00939

**OPENING EXPERT REPORT OF DR.
ANDREW WOLFE, PH.D. CONCERNING
DEFENDANTS’ INFRINGEMENT AND
WAYMO’S PRACTICE OF U.S. PATENT
NO. 9,368,936**

HIGHLY CONFIDENTIAL – ATTORNEYS’ EYES ONLY**Table of Contents**

I.	INTRODUCTION.....	1
II.	BASIS OF OPINIONS.....	1
A.	Qualifications and Experience	1
B.	Materials Considered.....	4
III.	LEGAL STANDARDS.....	5
A.	Claim Construction	5
B.	Infringement	6
IV.	THE ’936 PATENT	7
A.	Background and Summary	7
B.	Specification.....	8
C.	Prosecution History	15
D.	Asserted Claims.....	15
E.	Level of Ordinary Skill in the Art	16
F.	Claim Construction	16
V.	[REDACTED]	
	[REDACTED]	
	[REDACTED]	
1.	Claim 1	24
2.	Claim 3	56
3.	Claim 5	58
4.	Claim 6	58
5.	Claim 7	59
6.	Claim 9	59
7.	Claim 11	61
8.	Claim 14	61
9.	Claim 16	61
10.	Claim 17	62

HIGHLY CONFIDENTIAL – ATTORNEYS’ EYES ONLY

1 64. The electrical pulses generated by the APDs on the Fuji receive PCBs are passed to
 2 control logic, where they are used to calculate the distance between the Fuji device and a detected
 3 object. *Id.*

4 **B.** [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 **1. Claim 1**

8 **(a) An apparatus, comprising:**

9 66. Fuji is an apparatus. Specifically, Fuji is a 64-channel LiDAR device designed to be
 10 mounted on a vehicle and rotate 360 degrees. UBER00017934; UBER00072215-16; Haslim Decl.
 11 ¶ 7. Fuji includes six transmit printed circuit boards, each of which includes ten or eleven laser
 12 diodes and firing circuits to discharge current through the laser diodes causing them to emit a pulse
 13 of light. WAYMO-UBER00000635; UBER00075463-74.

14 **(b) a voltage source;**

15 67. Fuji includes a voltage source. Specifically, Fuji includes an approximately 50-V
 16 power supply. See e.g. Linoval Dep. 177:17-178:17, 180:22-25.² A representation of this supply is
 17 labeled V2 in the image below taken from Defendants’ SPICE model of the Fuji firing circuit:
 18
 19
 20
 21
 22
 23

24 ² UBER00017934 indicates that the primary system power supply is 24V. The Fuji schematics
 25 and Uber’s SPICE models indicate that an approximately 50V power supply is available for the
 26 laser-firing circuits. While I note the discrepancy, it is not relevant to my opinions whether this 50V
 27 supply is derived from the 24V supply or separate, given that there is sufficient evidence that it
 28 exists.